

Educational Intervention Program Based on Creative Writing for Emotional Self-Regulation Skills Development and Cognitive Flexibility among 3rd Grade Students

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Abstract

In schools, creative writing can be considered an important and valuable part of the learning and personal development process, because in addition to improving literacy skills, students through creative writing can explore themselves, improve their intrapersonal intelligence, express their emotions more effectively and improve their well-being. Whether it is poetry, short stories, journaling, or even songwriting, creative writing provides students a safe space to explore and express their emotions, helping them to process complex feelings in a constructive manner. Also, through creative writing students can develop their cognitive flexibility and emotional self-regulation.

The aim of this research was to develop and implement an educational intervention program based on creative writing on the development of self-regulation skills, respectively cognitive flexibility among 3rd students. Following the re-evaluation of the students who benefited from the proposed educational intervention program, improvements were noted in both cognitive

flexibility and emotional self-regulation. The proposed educational intervention program demonstrated its effectiveness, obtaining a *d* between .79 and 4.67, which, according to Cohen's criteria, shows that this program had a strong to very strong effect.

Keywords: Creative writing, Cognitive flexibility, Educational intervention program, Emotional self-regulation, Primary school

1. Introduction

Nowadays, writing skills have started to be used less due to developing technologies. Writing is one of the basic literacy skills that are taught to students starting from the first years of primary education (T. Erdoğan & Ö. Erdoğan, 2012). When we refer to writing, we refer to the student's ability to be able to express their feelings and thoughts in written form. The writing skill described as a narrative technique represents an activity that must use multidimensional, high-level thinking skills, and as early as the first grade of primary education. Writing is defined by Raimes (1983) as the communication of ideas clearly, fluently and effectively and the transfer of emotions, thoughts, desires and dreams by using symbols in an effective manner in accordance with grammatical rules. Writing is a skill that develops later, more difficult and slower than the speaking, listening and reading skills (Albertson & Billingsley, 2000; Bayat, 2014; Demir, 2011; Karatay, 2011; Şahin, 2016; Temizkan & Yalçınkaya, 2013).

In the context in which more and more is being discussed about a school of the future, about "the oriented pedagogical training of the reader of artistic literature through its axiological knowledge, as an immanent artistic-aesthetic system, and through the appropriate engagement of the reader in the production of values in the act of literature" (Pâslaru, 2011). Mostly, good thinking is essential for solving problems, for making decisions, for dealing with changes—all of which are important for survival and success in today's world. In turn, teaching thinking can be achieved through/within specific activities, creative writing being one of these. The fruit of imagination, of creativity, creative writing is not just a given of geniuses. People can be creative in any kind of activity. This postulate must give shine to pedagogical optimism, animate projects for its application in the broad practice of training and education. Therefore, the teacher's task is to create for the student the opportunity to manifest himself, stimulating his thinking, challenging his creativity at different levels: creative reading, creative interpretation/analysis, creative writing.

The aim of this research was to develop and implement an educational intervention program based on creative writing on the development of self-regulation skills, respectively cognitive flexibility among 3rd students.

2. Theoretical Framework

2.1 Creative Writing Part of the Educational Process

Creative writing is characterized by originality, by imposing new approaches that do not imitate the existence of what has already been done. To write in a creative way means to allow the mind and the heart to meet beyond the possible or impossible, beyond existence or

non-existence. This purely creative activity reveals to all those who write worlds that perhaps they did not even know they saw until they put them on paper, or new solutions that they did not even know they could create on an open space like a style sheet and without limit.

Through writing, the mind is freed from all ideas, being a reparative therapeutic activity by confronting inhibited affects, by discharging emotions, by focusing on the events themselves that have happened or are happening or may happen, while analyzing the cognitions about them, it provides a sense of liberation and satisfaction to the author after having managed to write his or her own story that he or she can share with others if he/she wishes. Moreover, linguistic studies the varied use of pronouns from one activity to another can lead to an improvement in health, which may reflect the process of changing attitudes and relationships towards oneself and towards others.

Bruning and Horn (2000) stated that some students may develop negative attitudes towards writing and as a result acquire unproductive writing habits since writing is seen as a complex activity and students generally have discouraging experiences with writing. The three categories of writing that we encounter throughout life are: 1) *transactional writing* (by which we understand the transaction, the exchange of precise, factual information, most often used in school during lessons to transmit new knowledge), 2) *expressive writing* (which actually means the colloquial, everyday language used by the author to develop some new ideas or thoughts that appear) and 3) *poetic writing* by which we understand the evocation of feelings and experiences.

For the same reason, writing is an activity that students are tired of, have difficulty with, find reluctant and dislike (Akkaya, 2011; Bayat, 2014; Kurudayıoğlu & Karadağ, 2010). The reason why writing is perceived as a difficult skill is closely related to the importance that teachers give to writing skills and the way writing activities are carried out in the classroom (Göçen, 2018).

There are many factors that affect the success of writing. The strengthening of students' desire to write cannot be explained only by the method used in the classroom. "A strong desire to write is as important as the student's ability to use writing skills. Having a positive desire for writing also requires a positive attitude towards writing" (Susar Kirmizi, 2009). In the writing process, students have complete freedom of expression, away from any kind of pressure. In order to motivate and determine students, it is important for the teacher to participate in the formation of creative writing skills. After the creative writing process, students should be allowed to share their products. This sharing can be done in the following ways (Kaya, 2013): "reading the products in front of the class or in a group, sharing ideas with each other, displaying the products in the classroom".

According to Atwell (1987), writing can also be a good facilitator in the problem-solving process, and in addition to this aspect, it also represents an effective way of discovering one's own identity.

Creativity in written language is summed up in a series of qualities, such as: originality, fluency of ideas, lexical eloquence, organization and accuracy of sentence and phrase

structuring, exceptionality and extraordinary character of ideas and way of thinking. At the heart of creativity is the ability to create new connections between various ideas that at first glance seem difficult to associate, but also the creation or imagination of new and original experiences through flexibility and freedom of thought. Creative thinking is an important element of cognitive, intellectual, professional development. By this we can say that writing represents the own mirror of human reflections and thinking.

The creative function of imagination is a necessary condition of everyday life. “Putting it to work” or “giving it work” means producing and articulating images in various ways. Imagination exercises play a colossal role in developing students’ creative writing skills, encouraging evaluation and feedback through analysis and reflection on the writing process and product (Şchiopu, 2019).

Thus, creative writing is directly associated with creativity and involves the free use of imagination in creating ideas that express diverse emotions and feelings in relation to a previously thought-out subject, exceeding the limits of the ordinary, being associated rather with originality and imagination than with truth or inflexible, standardized thinking.

Creative writing is an approach to writing that aims to involve students in the writing process and for them to be more productive in written activities; “it is difficult to reach each of the students with different learning situations, but creative writing exercises allow students to initiate the writing process in a fun way” (Kavcar, 2013).

The creative writing process can be thought as “the ability to solve problems through individual approaches based on the individual’s experience, knowledge, and attitudes” (Temizkan, 2011).

2.2 The Relationship between Creative Writing, Cognitive Flexibility and Emotional Self-regulation

Creative writing highlights the opportunity for individuals to express their feelings, thoughts, and impressions of the outside world in writing by using their imagination in an original, unusual, free, and authentic way (Güteryüz, 2006; Maltepe, 2006; Oral, 2014; Temizkan, 2011; Topçuoğlu Ünal & Sever, 2012).

Creative writing is, in a way, “the ability to write freely”. Emotions are a form of writing that expresses thoughts, impressions, and dreams. Creative writing activities activate both the cognitive and affective behaviors of the individual in the writing process, allowing them to “present their own experiences, observations, emotions, dreams, and thoughts in the most original way possible” (Kavcar, 2013).

According to Hembrey (2011), creative writing is a capacity of the mind to transmit ideas; of the heart—being an affective process through which experiences and feelings are transmitted, as well as a craft of the hand, a skill that requires practice.

Creative writing requires a special cognitive flexibility, as well as the ability to explore and observe both reality and ideas from the imaginary level, making it necessary to make connections between what exists, what can exist or even what exists on a fictional plane.

Through this creative writing, linguistic and verbal intelligence is harnessed, its purpose being the production of coherent and original written texts representing both a necessity in various moments of academic training and in social life. This activity that arouses and enriches the creativity of individuals responds to the need for Curricula to educate creative and independent thinking people (Şchiopu, 2021).

Through creative writing it is possible to enter in the inner world of children, in a subconscious way, because in this way it will be easier for them to describe their emotions and thoughts. “They cannot always share with everyone, everywhere, in an environment free from fear of judgment and criticism freely, without any element of pressure” (Temizkan, 2010). In addition, students in the process of creative writing have “a social environment in which they are not forced, emotional comfort, the desire to write and curiosity are present, and anxiety, peer pressure and fear of criticism are not activated” (Susar Kirmizi & Beydemir, 2012).

Creative writing activities provide students with opportunities to practice thinking, freedom of expression, create a product, develop empathy, improve imagination, explore different aspects of their lives, and choose writing topics and methods for themselves (Dai, 2010; Tok & Kandemir, 2015; Tütüniş & Küçükali, 2014). In addition, creative writing activities also serve the purpose of improving: students’ self-awareness, emotional self-regulation and thought regulation skills, decision-making and planning skills, and the ability to implement these plans, to enable them to discover and use information in a unique way (Bağcı, 2011; Gündüz & Şimşek, 2011; Temizkan, 2010).

Therefore, creative writing is a process through which the individual develops both emotionally through the possibility of recognizing, expressing and self-regulating the emotions and feelings that they place on the actual page, as well as cognitively by making them more flexible and eliminating barriers of any kind that may appear in thinking. Through the act of writing, we can also see a certain refuge, especially for those individuals, children or students who, due to shyness or other factors, cannot express themselves so well orally, while in written expression they escape inhibitions and fears, putting their thoughts and feelings in plain sight.

According to Stets (2003), emotional intelligence is characterized by four essential elements:

1) the ability to perceive and express emotions, 2) integrating emotions into the cognitive process, 3) understanding emotions and their source and 4) managing emotions.

Emotional self-regulation involves managing and controlling emotions, feelings, and the ability to initiate, inhibit, or shape physiological, cognitive, or behavioral behaviors directly related to emotions so that so-called personal goals and ideals can be achieved. The lack of development of this ability can lead to the emergence of various mental disorders, since certain emotions, experienced at intensities below or above average over a long period of time, can be harmful to emotional and mental health.

Creative writing can thus also involve a kind of self-therapy, because through this emotional discharge produced in written form, a set of tools specific to transformative learning is

developed. The child learns to manage emotions first by expressing them and then by looking for the cause and possible solutions, thus both the expression and finding the cause can be determined through writing, the solution being obtained through imaginative writing exercises such as: “How could I have reacted differently in this situation?”, thus making room for a psychodynamic part of the learning and education process.

This self-regulation represents the individual’s ability to access psychological, social, cultural and physical resources in order to achieve and maintain a meaningful state of well-being. Among the qualities of this emotional self-regulation we can mention: optimism, creativity, motivation, flexibility, imagination, perseverance and determination. The creative process can both determine and facilitate the development and exercise of these qualities, being the precursor of cognitive development.

Executive functions (EF) encompass a series of cognitive processes that allow for self-regulation of behavior, thinking, and emotions, as well as flexible adaptation to context regarding goals associated with the characteristics of specific situations (Arán Filippetti & López, 2014). These higher-order cognitive processes appear as important predictors of pre-academic skills (Shaul & Schwartz, 2014) and of learning and academic performance at school age (Arán Filippetti & Richaud, 2017; Jacobson et al., 2011; Thorell et al., 2013).

According to Yu et al. (2019), cognitive flexibility can be understood as a meta-competence. Specifically, cognitive flexibility is the tool for adaptive performance, directly responsible for overcoming problems through innovative solutions. According to researchers, cognitive flexibility differs from human intelligence because the latter is a static measure of performance. As Beckmann (2014) notes, cognitive flexibility involves the ability to cope with novelty, an attribute that is shared with some definitions of intelligence such as the construct of fluid intelligence.

The ability of a person to move from spontaneous to conscious thinking is the main role of cognitive flexibility in creativity. According to this model, the process of creative representation involves both a generation phase and an exploration phase that includes the analysis and evaluation of the representation made in order to obtain the meaning of a potential creative product (Simonton, 2022).

In the process of developing a creative person, Kaufman and Beghetto (2009) propose the model of the four Cs (mini-C, little-C, pro-C and big-C). In the *mini-creativity stage*, which is considered the first stage, the child produces pre-inventive structures, meaningful only to the child, the kind of creative manifestations practiced during play or drawing. In the second stage, *little C*, or reduced creativity, the created product involves recognition and involvement from others either through guidance from the teaching staff or through simple appreciations from colleagues. For the two stages mentioned so far, it should be noted that spontaneous thinking is more frequently practiced than controlled thinking, found especially in spontaneous games in which metacognition does not play such an important role, mainly involving improvisation, but once in school, metacognition becomes more important, especially in the little-C stage. The *Pro-C level* involves creations of a professional nature, with contributions in the field, in other words as a creative expertise specific to the field, this

is characteristic of people who, after a long practice, are able to produce valuable creations appreciated by those in the field. *Big-C*, or advanced creativity, is already specific to authors who have in their track record an entire collection of approved and accredited writings, making a difference at a cultural level. It is not necessary to complete all of these stages to be considered an eminent creator. In the Pro-C and Big-C stages, metacognition takes on a much greater role in the creative product than spontaneous thinking. According to Ebersbach and Hagedorn (2011), children between the ages of 7 and 11 show a selective association by examining three elements contributing to cognitive flexibility, namely responsiveness, spontaneity, and spatial representation. These three elements can be best observed in the activity dedicated to drawing, when children demonstrate a spontaneous spirit and have a capacity for spatial representation of what they draw, thus being predictors of cognitive flexibility. In addition, it has been demonstrated that cognitive flexibility helps children develop academically, socially, empathically and creatively.

Creative writing, emotional self-regulation and cognitive flexibility are in an interdependent relationship because they are aspects that can influence each other and contribute to the harmonious development of an individual.

Creative writing can facilitate emotional self-regulation, being a method of engaging and exploring oneself, one's own world, but also the world and the people around them. Also in this sense, creative writing can help to understand one's own emotions and feelings through a therapeutic unloading and detachment.

Then, creative writing stimulates cognitive flexibility because it puts the student in a position to see with their mind's eye things that they may not have imagined before, thus challenging creative thinking to create something that did not previously exist for the student. Moreover, creative writing would not be possible without cognitive flexibility because the writer would not be able to overcome the barriers of reality in terms of solving tasks or problems that require a more atypical approach and perspective in order to be solved.

From the perspective of emotional health, self-regulation and cognitive flexibility are not negligible factors, because by expressing emotions and feelings, as well as the ability to adapt behaviors in various situations, the problem factor can be discovered, which through flexible cognition with which the individual can look at the problem from multiple angles, effective solutions can also be found.

According to Saarni (2011), cognitive development and temperament influence the emotional competence development, however, the skills related to emotional competence are also influenced by the social and individual educational experience, including the system of beliefs and values that they form both in the family and school environment. Thus, through the combined influence of our cognitive, emotional and experiential structures, we actively create our own reality and fictionality.

Creative writing also keep under the student to a high level of self-efficacy, which is a conscious or unconscious assessment that someone makes of themselves and about themselves regarding their ability to successfully complete a task and some researchers

(Bruning & Kauffman 2016; Reeve, 2009) suggest that writers who demonstrate high levels of self-efficacy tend to be more motivated, write more effectively and perform better under pressure, thereby improving their level of emotional self-regulation and cognitive flexibility.

Students who believe in what they are writing can effectively self-regulate the writing process, which tends to establish and achieve more and more, thus achieving more ambitious writing goals (Zimmerman & Bandura, 1994).

Therefore, high self-efficacy and self-regulation can improve writing and learning performance, respectively, leading students to a higher level of ambition and perseverance in the goals they have set for themselves.

In the meta-analysis conducted by Noordzij, Giel, and Mierlo (2021) they highlighted that “inducing” self-regulatory goals consistently improved student performance. In the field of writing instruction, performance-based goals have been shown to have a small but positive effect on student performance (Camacho et al., 2020). It is easy to imagine that the desire to perform better than others could have negative effects when one is not motivated to learn, but this could have positive effects when the desire to write better than others energizes the learning process, by generating a desire to know more in order to write better.

In any case, in addition to teaching students to take on more emotional self-regulation goals, the research reviewed suggests that it might be useful to encourage students to approach their writing with a touch of competitiveness.

Those who practice creative writing use a side of creativity that alternates between playful processes that involve a lot of cognitive flexibility, engagement and revision processes. These aim to transform what has been discovered during the so-called game, using a lot of associative thinking, jumping between different thoughts, images, and experience in an undirected, spontaneous, and playful way.

3. Research Questions

The objective of this research is to elaborate, implement and test the effectiveness of an educational intervention program based on creative writing in order to develop cognitive flexibility and emotional self-regulation among third grade students, so the research question is the following:

To what extent can creative writing contribute to the development of cognitive flexibility and emotional self-regulation among third grade students?

4. Hypotheses

The hypothesis from which we started this research is the following:

The educational intervention program “Emotions on paper” will lead to the emotional self-regulation skills development, respectively cognitive flexibility of 3rd grade students.

5. Method

5.1 Participants

The participants of this study were 50 students aged between 9 years and 6 months and 10 years and 3 months, students of the “George Coşbuc” Junior High School in Sighetu Marmăţiei, Maramureş County. Of the total of 50 participants, 29 are male and 21 are female. Following the interpretation of the results of the questionnaires given to them, they were divided into two groups: an experimental group (N = 25) and a control one (N = 25).

5.2 Instruments

5.2.1 Emotion Regulation Questionnaire (ERQ, Gross & John, 2003)

This instrument is designed to assess and measure two emotion regulation strategies; the persistent tendency to regulate emotions through *cognitive reappraisal* or *expressive suppression*. Cognitive reappraisal is an adaptive, antecedent-focused strategy that affects the early cognitive stages of emotional activity, whereby the original interpretation of a situation is reevaluated, while expressive suppression is considered a maladaptive, response-focused action plan implemented after an emotional response has already fully developed (Ioannidis & Siegling, 2015).

The questionnaire consists of 10 items that are scored on a Likert scale from 1 to 7, where, 1 = strongly disagree and 7 = strongly agree. The higher the score on a subscale, the more that emotion self-regulation strategy is used, the lower the score, the less it is used.

Regarding the validity and reliability of this instrument, Permono and Kusristanti (2016) obtained an α coefficient of .73 for the cognitive reappraisal subscale and an α coefficient of .64 for the expressive suppression subscale. In contrast, Suwartono and Bintamur (2019) obtained an α coefficient of .80 for the cognitive reappraisal subscale and an α coefficient of .60 for the expressive suppression subscale.

5.2.2 Cognitive Flexibility Inventory, CFI, Dennis & Vander Wal, 2010)

The Cognitive Flexibility Inventory (CFI) is a self-assessment instrument containing 20 items scored on a Likert scale from 1 to 7, to monitor how often individuals have engaged in challenging cognitive-behavioral thought interventions (Dennis & Vander Wal, 2010). The CFI measures two aspects of cognitive flexibility: *the ability to find alternatives* (represents the adaptive capacity to perceive multiple alternative explanations for life events and the ability to generate several alternative solutions to difficult situations) and *the need for control over situations* (having an internal locus of control or the tendency to perceive difficult situations as somewhat controllable). Regarding the validity and reliability of this instrument, Dennis & Vander Wal (2010) demonstrated high test-retest reliability for the entire questionnaire ($r = .81$), for the Alternatives subscale ($r = .75$) and the Control subscale ($r = .77$). Also, the Cronbach's Alpha coefficient ranged from good to excellent for the Alternatives subscale ($\alpha = .91$), the Control subscale ($\alpha = .86$) and the entire questionnaire ($\alpha = .90$).

5.3 Research Design

The present research had an experimental design, being carried out over 4 months from December 2022 to April 2023.

In the *pre-experimental phase*, the first step was to sign an informed consent form with both the school manager and the parents of the students participating in this research, based on which they were informed about the purpose of the students' participation in the research, respectively the confidentiality of the data throughout the research, as well as after its completion. Then, the students were assessed by self-administering the two chosen instruments.

In the *experimental phase*, the educational intervention program based on creative writing was implemented and developed. The chosen educational intervention program had eight activities (see Table 1), four of which were dedicated to strategies for developing emotional self-regulation and the other four were dedicated to developing cognitive flexibility.

The main methods and strategies used in carrying out these activities are: brainwriting, writing with a given beginning, free writing, composing with a given end, 635 and Raft.

Table 1. Tabular representation of the activities of the proposed educational intervention program

Crt. No.	Activity	Objectives
1.	<i>"The movie from my imagination"</i>	Developing cognitive flexibility by intuiting, with the help of keywords, the action of the movie that is about to be watched.
2.	<i>"The Magic of the Library"</i>	Developing cognitive flexibility by personifying an institution to be visited
3.	<i>"A Difficult Situation"</i>	Developing emotional self-regulation skills through the written presentation of difficult events/situations experienced and resolved or not by students.
4.	<i>"The Failure of Losing the Game"</i>	Developing emotional self-regulation skills through writing essays about failure and specific reactions to frustration.
5.	<i>"The Rabbit's Whisper"</i>	Encouraging students to produce original literary works that increase cognitive flexibility, using the symbolism of Easter egg painting.
6.	<i>"I'm not afraid to make mistakes"</i>	Transposing the fear of failure into an imaginary literary creation in order to facilitate emotional self-regulation
7.	<i>"Me and My Anger"</i>	Developing emotional self-regulation skills by writing down the triggering situations and the manifestations that followed, as well as calming techniques following the appearance of anger.
8.	<i>"The Trickster in My Mind"</i>	Using cognitive flexibility to develop the level of emotional self-regulation by personifying the discouraging inner voices in each of our minds.

In the *post-experimental stage*, the participants involved in this research were re-evaluated to note the existence of certain improvements in the measured variables.

6. Results

Table 2. Descriptive analysis of the obtained results of the variables measured in the pre-test phase

Group		Reappraisal	Suppression	Alternative	Control
<i>Control</i>	N	25	25	25	25
	Mean	27.76	9	73.24	25.04
	Median	30	10	81	26
	Std. Deviation	2.75	2.10	9.50	1.96
	Std. Error of Mean	.55	.42	1.9	.39
	Sum	694	225	1831	626
	Minimum	23	6	57	22
	Maximum	30	14	81	27
	% of Total Sum	27.9%	18.5%	26.8%	23.0%
<i>Experimental</i>	N	25	25	25	25
	Mean	16.04	25.24	30.6	41
	Median	14	24	29	41
	Std. Deviation	5.18	1.76	2	.00
	Std. Error of Mean	1.03	.35	.40	.00
	Sum	401	631.00	765	1025
	Minimum	10	23	29	41
	Maximum	23	27	33	41
	% of Total Sum	16.1%	52.0%	11.2%	37.6%

According to Table 2, following the interpretation and scoring the responses of the students in the two groups, significant differences are noted both at the level of emotional self-regulation and at the level of cognitive flexibility. Thus, the students from the control group, in terms of emotion self-regulation, resort more to reappraisal ($M = 27.76$) than suppression ($M = 9$), which means that they do not censor themselves in expressing both positive and negative emotions, respectively, when they experience negative emotions or stressful situations, they try to self-control by maintaining their calm. Also, in terms of cognitive flexibility, students from the control group focus more on searching for alternatives ($M = 73.2$) than on control ($M = 25.04$), which means that when they are faced with a situation, they begin to form an opinion, then think about several options to solve it and then make a decision. Moreover, they

have an increased level of putting themselves in the other person's shoes, looking for additional information and looking at a certain situation or behavior from several perspectives before judging. In contrast, students in the experimental group, at the level of emotional self-regulation, are more oriented towards suppression ($M = 25.24$) than reappraisal ($M = 16.4$), which means that they are more reluctant to express both positive and negative emotions, and their control occurs by not expressing them at all. Also, at the level of cognitive flexibility, students from the experimental group focus more on the need for control ($M = 41$) than on looking for alternatives ($M = 30.6$), meaning that they have an internal locus of control and when faced with a difficult situation they become agitated, encountering difficulties in looking for solutions and making an optimal decision.

Therefore, to see if there are improvements in the measured variables following the implementation of the proposed educational intervention program, respectively to observe whether the hypothesis of this research is confirmed, we opted to calculate the t-test for independent samples.

Table 3. The results of the independent t-test of the variables measured in the post-test phase

Variables	Group	N	M	SD	t	df	95% Confidence Interval of the Difference	d
<i>Reappraisal</i>	Control	25	32.08	2.37	16,16*	48	[7.18; 9.2]	4.67
	Experimental	25	23.8	.88				
<i>Suppression</i>	Control	25	8	2.94	2,92*	48	[.56; 3.04]	.84
	Experimental	25	6	.91				
<i>Alternative</i>	Control	25	86	3.66	2,75*	48	[.59; 57]	.79
	Experimental	25	83	1.58				
<i>Control</i>	Control	25	24.76	2.69	11,50*	48	[5.51; 7.84]	3.32
	Experimental	25	18.08	1.07				

Note. * $p < .01$.

After calculating the t-test for independent samples, significant differences between the two groups can be noted according to Table 3. Thus, the students of the experimental group obtained a $t_{(48)} = 16.16$ for reappraisal, a $t_{(48)} = 2.92$ for suppression, a $t_{(48)} = 2.75$ for alternative and a $t_{(48)} = 11.50$, which means that these students, at the level of emotional self-regulation, have improved their ability to express their emotions regardless of their nature, to manage them effectively and, when faced with certain stressful situations, to redirect their attention towards something pleasant and to maintain their calm. Additionally, improvements are also found at the level of cognitive flexibility. Students of the experimental group increased their ability to seek alternatives by learning that when faced with a certain difficult situation, they should first inform themselves and think about certain solutions, then

reflect and choose the best option and finally make a decision, perceiving it as a challenge or an opportunity. Unlike the experimental group, it can be observed that the control group, which did not participate in this program, recorded averages similar to those in the pre-experimental stage, with no significant changes in terms of cognitive flexibility or emotional self-regulation.

To demonstrate the effectiveness of the proposed intervention program, the effect size was calculated. After the calculation, a d between .79 and 4.67 was obtained, which according to Cohen's criteria (1988) the proposed educational intervention program had a strong to a very strong effect. Therefore, the hypothesis of this research is confirmed.

4. Discussion

Reviewing the literature, most of the studies perceive creative writing as both a mindfulness technique and an effective method of personal development and growth. Creative writing, including journaling and free writing, leads to the development of certain skills, dispositions, and character traits. For example, Bernardes and Menzies (2017) list the following skills, dispositions, and character traits that can be developed through students' participation in creative writing: creativity, risk-taking and problem-solving, metacognition, self-confidence, social and interpersonal skills, patience, perseverance and resilience, communication skills, critical thinking and self-efficacy.

In the school environment, creative writing is an important part of the learning and assessment process, writing that is often neglected in favor of rapid writing (Au & Gourd, 2013; Gibson & Ewing, 2020). Unfortunately, there are very few studies in the literature that investigate the impact of creative writing on the personal development process of primary school students, most of them focus more on adolescents and college students.

The aim of this research was to develop and implement an educational intervention program based on creative writing on the development of self-regulation skills, respectively cognitive flexibility among 3rd students. Creative writing provides a safe way to understand, process, express, and self-regulate our emotions. In essence, this method is a powerful tool for increasing emotional well-being among students by providing a way to process and self-regulate difficult emotions, find joy in self-expression and develop cognitive flexibility.

The results of our research have highlighted the fact that engaging students in creative writing activities is a valuable way to develop cognitive flexibility, respectively emotional self-regulation. Similar results were obtained by Leahy (2017) in his study, highlighting that students who practiced creative writing activities significantly improved their ability to express their emotions. Taken together, we can conclude that writing in a creative and self-regulatory way helps students to improve their writing process and, with it, the learning process. Additionally, a recent study conducted by Nakhostin-Khayyat et al. (2024) supports our findings by highlighting that creative writing activities, in addition to encouraging students' mental adaptability, divergent thinking and improving their problem-solving skills, also develop cognitive flexibility and emotional self-regulation, variables that in the long run lead to increased their levels of resilience.

5. Conclusions

Emotions are subjective responses, with physiological changes that prepare the person for a certain action or that arise from a certain action. Self-regulation consists of accepting and managing these emotions, whether of joy or sadness. Self-regulation is a skill that is learned, not being endowed with it from birth. From the various studies analyzed, it was observed that this skill can be developed through creative writing which has the potential to serve as an emotional discharge. Whereas, cognitive flexibility is rather an adaptive performance that serves to develop through novelty and overcoming possible obstacles, its main role being that of consciously moving from spontaneous thinking to conscious thinking.

Creative writing allows individuals to explore their emotions, understand different perspectives, and express their feelings in a controlled and constructive manner. This process is vital for the development of emotional intelligence because it encourages self-reflection, empathy, and emotional regulation. Additionally, creative writing requires cognitive flexibility, which is the ability to switch between different concepts, adapt to new information, and generate multiple solutions to a problem.

In addition to these aspects, creative writing is a valuable tool for personal growth and self-expression, providing students with a safe space to explore their thoughts, feelings, and identities. Through writing, students can effectively express and manage their emotions, reflect on their experiences and develop a deeper understanding of themselves. This process is essential for cultivating a strong sense of self-awareness, which is a key component of cognitive and emotional development.

This paper aimed precisely to draw attention to the benefits that creative writing implemented through an intervention program can bring to students, not only from an academic point of view by improving their written message writing skills, but also from an affective-emotional point of view by sharing emotions and feelings more easily through compositions, but especially in terms of cognitive flexibility where a major change was found in the way they choose to find solutions to problems or perceive various situations that they themselves or others go through.

A first limitation of this study is the period of the activities, respectively the limited number of participants. The proposed educational intervention program, being carried out over a period of four months with participants from only one class, respectively educational unit, did not show remarkable improvements so that we could extrapolate the results obtained to demonstrate the efficiency of the proposed program. The second limitation is the lack of investigation of endogenous variables such as creative thinking, executive functions (planning and organization).

A first future research direction would consist of extending this research to a representative sample (*e.g.*, implementing the program in local schools), respectively over a longer period of time (*e.g.*, over the course of a school year). The second future research direction would consist of conducting another study with the aim of investigating whether creative writing represents a mediating variable in the resilience-well-being relationship.

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